

MADE EASY



ETVS MADE EASY

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PREFACE

1.1 SCOPE

This manual provides the Enhanced Terminal Voice Switch (ETVS) user with a guide to the position equipment and routine operating procedures. It is not intended to replace the Denro Operator Manual or diminish the importance of functions not considered routine in this manual.

Chapter 1Describes position equipment available to the operator.

Chapter 2......Describes TED pages, keys, and informational displays.

Chapter 3..........Describes radio, landline and intercom operating procedures.

Chapter 4 Describes position checkout procedures.

Chapter 5..........Describes ETVS abbreviations and technical terms.

To operate the ETVS, the operator should be familiar with radio, landline and intercom communications and have received training in ETVS system operation.

CHAPTER 1

POSITION EQUIPMENT

1.1 OPERATING EQUIPMENT POSITION MODULES

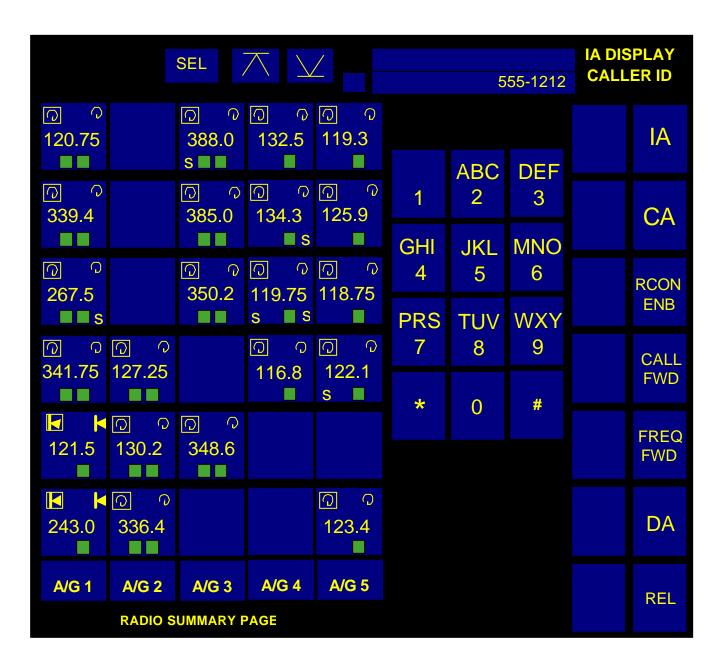
1.1.1 Touch Entry Device

The Touch Entry Display, or **TED** position, is an operating position mounted on a liquid crystal display (LCD) panel that is touch-sensitive. The **TED** displays several pages of radios, intercoms and landlines.



TED Radio Page 1, G/G Page 1, and Special Function Page

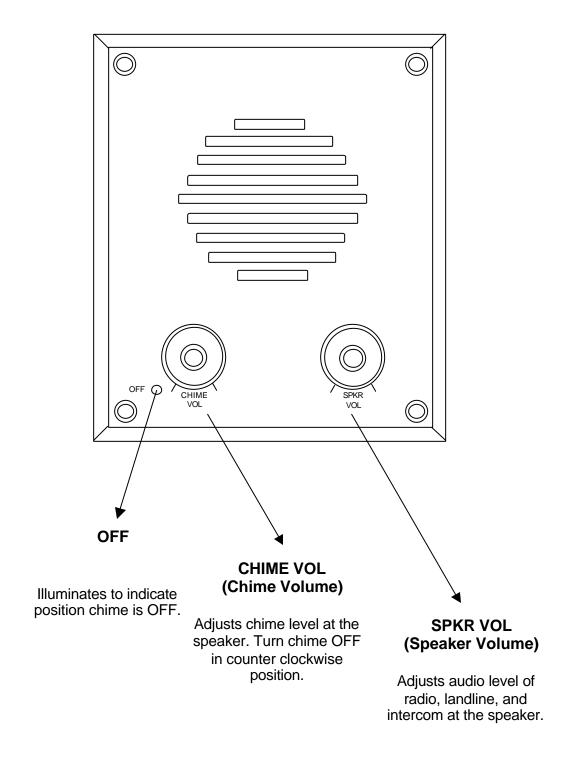
1.1.1 Touch Entry Device, continued



TED Radio Summary Page, Keypad, and Special Function Page

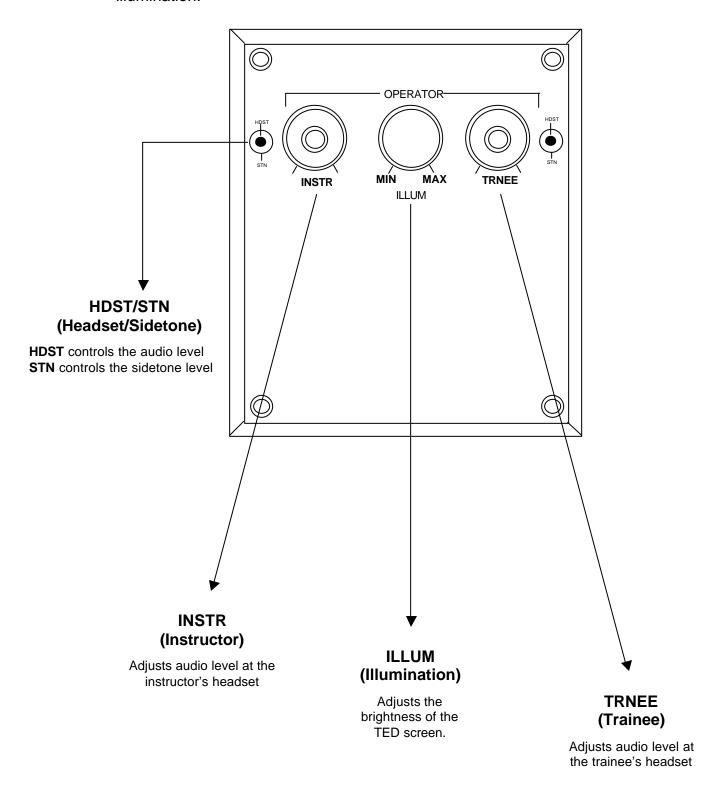
1.1.2 Speaker Module

The Speaker Module broadcasts receive audio. The position chimes when the operator selects the loudspeaker.



1.1.3 POT Module

POT Module controls the TED audio; sidetone volume and TED screen illumination.



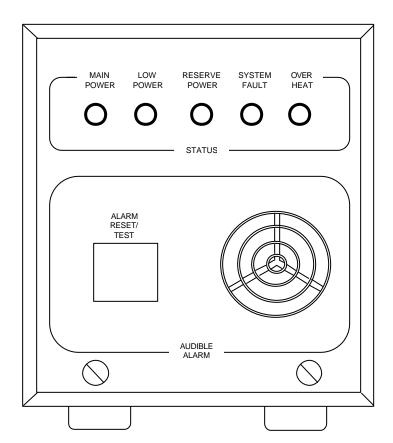
1.1.4 Jackbox

The jackbox accommodates a Trainee and an Instructor headset or handset. When a position is manned with a single controller, the headset must be plugged into the instructor jack. When a trainee is plugged in, the instructor jack has override capability. A headset or handset must be plugged in the jackbox in order for the position to operate.



1.1.5 Remote Alarm Panel

The Remote Alarm Panel provides a visual and audible indication that it received an alarm from the SCT, central rack or rack heat sensors. It provides an indication that the system is operating from the power supplies or battery backup power, and indicates the amount of backup time available from the batteries.



1.1.5.1 Remote Alarm Panel Indicator Lights

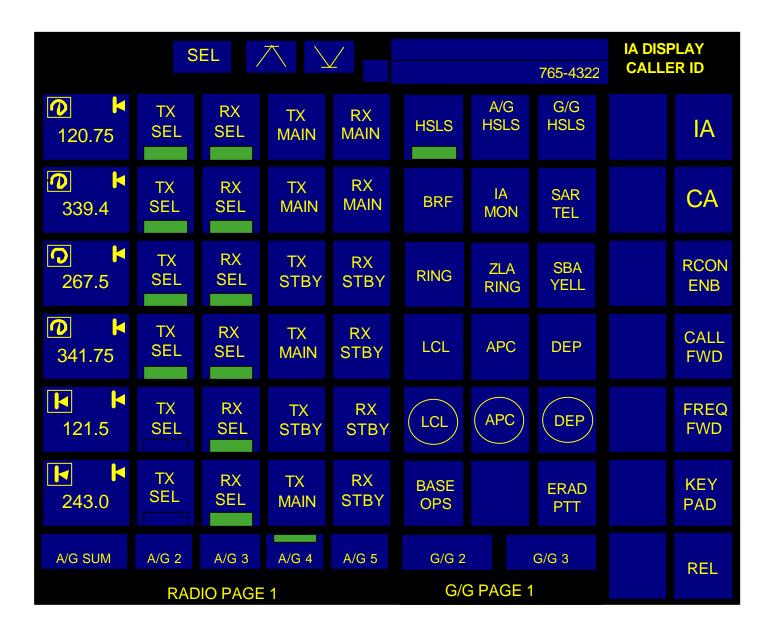
NOMENCLATURE	FUNCTION
MAIN POWER	Green indicates that the system power source is facility AC power. Red indicates the System is operating on battery power due to AC power failure or insufficient power supply module redundancy.
LOW POWER	Green indicates there is at least 5 minutes of reserve power available. Red indicates there is 5 minutes or less of reserve power (will go back to GREEN after 15 minutes of continuous charge).
RESERVE POWER	Green indicates batteries are on-line and fully charged (reactivated after 2 hours of continuous charge). Red indicates the batteries are off-line. Amber indicates the System Alarm Panel is currently using the 15-minute timer to set the LOW POWER LED to RED.
SYSTEM FAULT	Green indicates there are no system-reported faults. Red indicates that the system is operating in a faulted mode.
OVERHEAT	Green indicates rack temperatures are normal. Red indicates a high temperature condition in one of the racks.
ALARM RESET/TEST	Illuminates Red to indicate system alarm condition or TEST button pressed.

CHAPTER 2

TOUCH ENTRY DEVICE

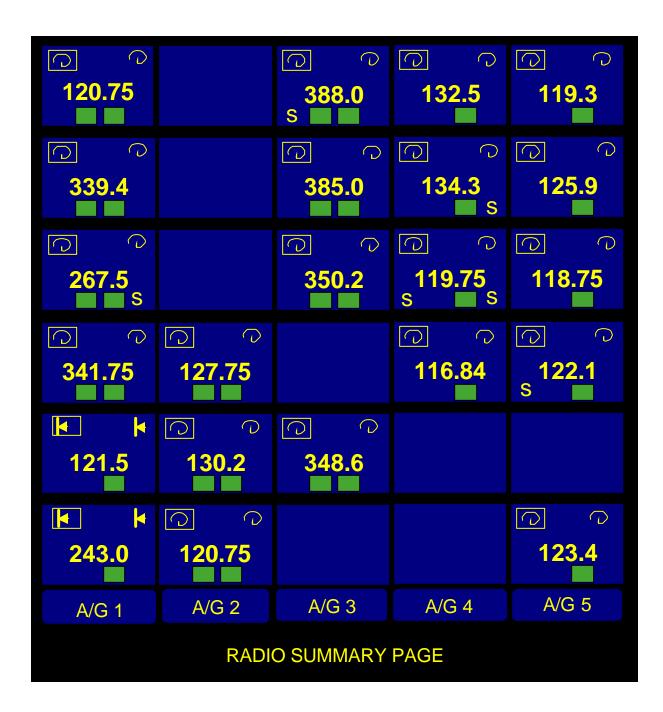
2.1 TED PAGES

The TED is separated into three sections, referred to as **PAGES**. The left side of the TED displays all of the Air-to-Ground (A/G) pages and Ground-to-Ground (G/G) page 3, the middle area either displays G/G pages 1 and 2 or the Keypad, and the right side displays the Special Function page.



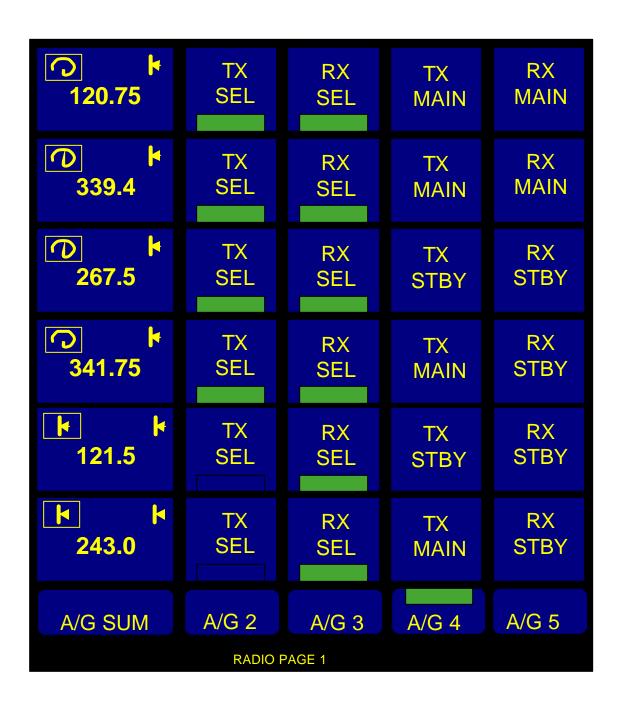
2.1.1 Air-to-Ground Summary Page

The ETVS can display up to 30 frequencies at a position on the Radio Summary Page. To display the Radio Summary Page, select the A/G SUM key at the base of the A/G page. This page displays the current status of all the frequencies assigned to the position.



2.1.2 Air-to-Ground Pages (1-5)

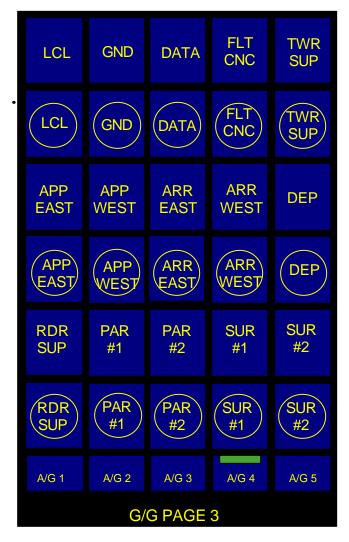
A/G Pages 1-5 display the complete key set of up to 6 frequencies assigned to that page.



2.1.3 Ground-to-Ground Pages

A TED provides access to up to 66 G/G intercoms and landlines. G/G pages 1 and 2 are displayed in the middle area of the TED and can access up to 18 intercoms and landlines per page.

GROUND-TO-GROUND PAGE 3



GROUND-TO-GROUND PAGE 1

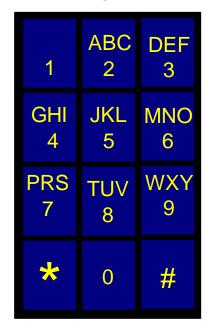


G/G page 3 can access 30 intercoms and landlines and, when selected, is displayed on the left side of the TED covering the A/G pages.

When G/G page 3 is selected, G/G pages 1 and 2 can be toggled independently providing up to 48 G/G selectors at a single time.

2.1.4 Telephone Keypad and Special Function Page

TELEPHONE KEYPAD



G/G pages 1 and 2 are replaced by a telephone keypad when a landline is selected that requires dialing a 2 or 3-digit number.

SPECIAL FUNCTION PAGE

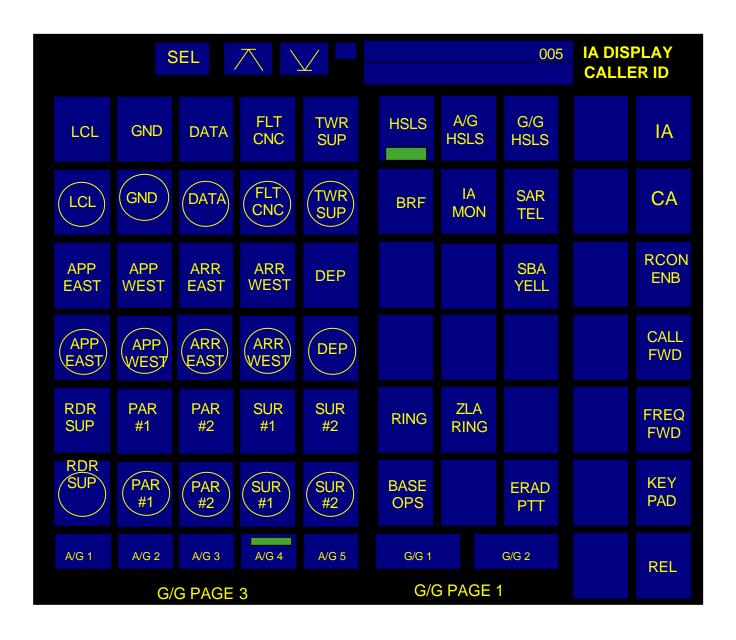
The left side of the Special Function page will display incoming calls from intercoms or landlines that are either not being displayed or are not configured at the position.



The right side of the TED displays the Special Function page and is assigned to every position.

The Special Function keys located on the right side of the Special Function Page are non-configurable.

2.1.5 TED With G/G Page 3, G/G Page 1, and Special Function Page



2.2 TED KEYS

The pushbuttons located on the TED are referred to as **KEYS**. The **KEYS** for each TED are pre-programmed during installation for the radios, intercoms and landlines that are required at that position. Pre-programmed radio and landline **KEYS** may be changed through the SCT as required.

2.2.1 Air-to-Ground Keys

Radio keys are provided for radio communications and main/standby radio selection. Visual and audible signals alert the operator when an incoming call is present and indicate the operational status of all active communications.



A/G SUMMARY PAGE KEY Selecting this key will display all of the frequencies assigned to the position.



A/G SUMMARY FREQUENCY KEY Symbology description:

- The frequency has been selected to be heard in the headset (top left headset icon), but either the A/G HSLS key or HSLS key has also been activated (top right speaker icon).
- Lit bar displayed on top row indicates the frequency is being displayed at the bottom of the Summary Page.
- The transmitter and receiver are both on (green light bars).
- The standby transmitter has been selected ("S" in lower left corner)
- The main receiver has been selected (no "S" in lower right corner).

Selecting an A/G summary frequency key will display that frequency's complete key set at the base of the page.



A/G PAGE KEY Displays the 6 frequencies assigned to that page. The green light indicates there is audio coming in on a frequency located on a page that is not being displayed.



FREQUENCY KEY Identifies a frequency assigned to this position. Pressing this key toggles audio from headset to speaker for this frequency only.



TRANSMIT/ RECEIVE SELECT Allows the controller to transmit and receive audio on a selected frequency.



TRANSMIT/ RECEIVE MAIN/STANDBY Selects the main or standby transmitter/receiver for the selected frequency.

2.2.2 Ground-to-Ground Keys - Locking

Ground-to-Ground Keys are provided for landline and intercom selection. The following keys require only a single touch to operate and are referred to as **LOCKING KEYS.**



G/G PAGE KEYS Selecting either the G/G 1 OR G/G 2 PAGE keys will display up to 18 landline and intercom keys. G/G 3 PAGE KEY displays 30 landline and intercom keys. Page title is displayed at the base of the key display area.



HEADSET/LOUDSPEAKER Acts as a master switch that routes all audio to the speaker regardless of its routing set at the frequency keys.



AIR-TO-GROUND HEADSET/LOUDSPEAKER Toggle switch that routes just A/G audio to the speaker regardless of the routing set at the frequency keys. If the HSLS key has been selected to route audio to the speaker, this key has no effect.



GROUND-TO-GROUND HEADSET/LOUDSPEAKER Toggle switch that routes just G/G audio to the speaker. *If the HSLS key has been selected to route audio to the speaker, this key has no effect.*



HOLD Places an existing intercom, landline, or telephone call on hold. Other positions or landlines may be called while **HOLD** is in effect.



INDIRECT ACCESS MONITOR Initiates position monitor for up to three positions (uses the keypad for dialing a 3-digit position number.



BRIEF Records the outgoing and oncoming controllers communication with each other during relief briefs.

The following G/G keys are also locking, but the names that appear on the keys will vary greatly from facility to facility. They are shown here only as examples.



2.2.3 Ground-to-Ground Keys – Non-Locking

The following keys are referred to as **NON-LOCKING KEYS** and require a continuous touch during conversations or operation:

ERAD PTT	EMERGENCY RADIO PUSH-TO-TALK Allows the controller to transmit on both guard frequencies simultaneously.
RING	RING Provides ring voltage to landline circuits requiring manual ring.
DOOR REL	DOOR RELEASE Releases up to five (5) facility doors.

2.2.4 Special Function Keys



INDIRECT ACCESS KEY This key is used to initiate calls using 3-digit numbers entered on the keypad.



COMMON ANSWER KEY This key is used to answer an incoming call from a landline or intercom that does not have a G/G key on the TED being called.



RECONFIGURE ENABLE KEY This key accepts a new position configuration map (local map) sent from the SCT. The old map is retained in memory and the position æsumes the new configuration. It is not necessary to deselect any active keys to accept a new map.



FREQUENCY FORWARD KEY This key forwards all frequencies to another position.



CALL FORWARD KEY This key forwards all Ground-to-Ground Calls to another position.



DIRECT ACCESS KEY This key acts as a toggle switch that replaces the G/G pages with a keypad.



RELEASE KEY This key terminates landline and intercom calls, except calls on HOLD. Also used to cancel errors.

2.3 INDIRECT ACCESS/CALLER ID DISPLAYS



2.3.1 SEL (Select) SEL

Selects between the Caller ID and IA Displays. When depressed, the box located between the arrows and display box will illuminate at the display that has been selected.

2.3.2 Up/Down Arrow

Allows scrolling through the information currently displayed in the Caller ID or IA Displays, whichever has been selected.

2.3.3 Indirect Access Display

The ETVS internally records all calls placed from a position that used a 2 or 3-digit number or telephone number. The display holds up to 20 calls with the most recently called number displayed.

2.3.4 Caller ID List and Status

The Caller ID List displays incoming calls that were made from a 2 or 3-digit number or telephone number. The display holds up to 20 calls and displays the most recently received number.

One of the following three symbols will be displayed in front of the Caller ID number indicating status of the incoming call:

>	Indicates an unanswered incoming call
=	Indicates the call is currently in progress
No symbol	Indicates the call is terminated

2.4 TED KEY STATUS INDICATORS

The following explains the various flashing and blinking lights on the TED:

2.4.1 TX Radio Keys

SOLID GREEN......TX selected but idle at your position

FLUTTER GREEN.....TX selected and keyed at your position

FLUTTER RED.....TX is selected at your position &keyed from another position

FLASH RED......TX is not selected at your position but is being keyed

2.4.2 RX Radio Keys

SOLID GREEN......RX selected but idle at your position

FLUTTER GREEN.....RX selected and audio is being received at your position

FLUTTER RED......RX not selected but is being received at another position

2.4.3 MAIN/STBY Radio Keys

SOLID GREEN...... Main transmitter or receiver has been selected SOLID RED...... Standby transmitter or receiver has been selected

2.4.4 A/G Page Keys

FLASH GREEN Audio is on non-visible pages

2.4.5 G/G Keys

SOLID GREEN..... Selected

FLASH GREEN Incoming call present

FLUTTER GREEN...... Incoming call accepted, or

Outgoing call connected

SOLID RED Line in use

WINK RED...... Call on hold

CHAPTER 3

OPERATING PROCEDURES

3.1 HEADSET/LOUDSPEAKER ROUTING PROCEDURES

3.1.1 A/G Audio Routing

There are two ways to select audio routing for radios.

1. A/G audio may be routed to the headset or speaker by pressing the frequency key; press once for headset and again for speaker. The icon in the upper left corner displays that selection.



2. The icon in the upper right corner will be the same unless it has been overridden by the selection of the A/G HSLS or HSLS key. For example: If you selected 120.75 audio to be received in your headset, the icon on the left is a headset. If you then select A/G HSLS or HSLS, all the audio for your radios will be routed over the speaker and the icon on the right will change to a speaker.





3.1.2 G/G Audio Routing

G/G audio is defaulted to be received in the headset unless a frequency is in use, in which case it is automatically routed to the speaker. To route all G/G calls to the speaker whether or not a frequency is in use, select the G/G HSLS or HSLS key. The only indication is the green light on the G/G HSLS or HSLS key.





3.1.3 Unattended Position Audio Routing

With all headset and handsets unplugged from the position jackbox, audio is routed to the speaker. If headset or handsets are unplugged for over 30 seconds, all G/G connections hang up. Reconfiguration maps sent by the SCT are automatically accepted.

3.2 RADIO PROCEDURES

3.2.1 Transmitting

Select **TX SEL** in desired frequency key set.

120.75

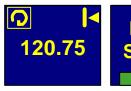


* Functional change for USN *

More than one position is able to select a transmitter simultaneously. Referred to as "Key-to-Lockout", the controller who keys the mike first has control of the frequency. If another controller attempts to key the mike at the same time, a squelch break will be heard.

3.2.2 Receiving

Select **RX SEL** in desired frequency key set. More than one position can access an RX frequency simultaneously.





3.2.3 Selecting Main/Standby Radios

* Functional change for USN *

Select **TX MAIN** or **RX MAIN** to switch to standby radios. This function will only work with frequencies that have backup transmitters and receivers. Select again to return to MAIN radios. This selection will affect all positions with access to that frequency.





3.2.4 Emergency Transmissions

3.2.4.1 Transmitting on All Guard Frequencies

* Functional change for USN *

Select **and hold** the **ERAD PTT** key located on a G/G page.



Release key to end transmission.

3.2.4.2 Transmitting on One Guard Frequency

* Functional change for USN *

Select **and hold** a single emergency frequency **TX SEL** key.





Release key to end transmission.

3.2.5 Radio Summary Page Key

Select the **A/G SUM** page key. Select desired frequency key to make changes. The frequency key set will be displayed at the bottom of the page.



Make desired changes, then touch frequency key twice to redisplay the A/G Page numbers.

3.3 LANDLINE AND INTERCOM PROCEDURES

3.3.1 Place a Manual Ring Call





Select the appropriate landline key and select the RING key.

3.3.2 Place an Auto Ring Call



Select the appropriate landline key and the line will automatically ring.

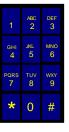
3.3.3 Place a Voice Call



Select the appropriate landline key and communicate.

3.3.4 Place a Call on a Dial Line





Select the appropriate dial line and dial 3-digit number on the keypad.

3.3.5 Place an Intercom Call



Select the appropriate intercom key and communicate.

3.3.6 Monitor a Position



Select the position key that contains a circle.

3.3.7 Monitor More than One Position







Select the IA MON key, then the IA key and dial 3-digit position number on the keypad. Up to three positions can be monitored simultaneously.

3.4 RELIEF BRIEF PROCEDURES



With both controllers plugged in to the same jackbox, select the BRF key and commence position relief procedures. Reselect the BRF key when completed.

3.5 SPECIAL FUNCTION PROCEDURES

3.5.1 Manually Dialing a Position





Select the IA key and enter 3-digit position number on the keypad.

3.5.2 Answering a Call Not Displayed on G/G Pages



Select the flashing CA key and communicate. Caller Position ID and number will be displayed in the Caller ID box.

3.5.3 Accepting a New Map



Select the RCON ENB key to accept the new map sent by the SCT.

3.5.4 Accessing the Keypad



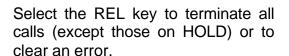
Select the DA key to display the numeric keypad in the center section of the TED.

3.5.5 Displaying G/G Pages if Keypad is Displayed.



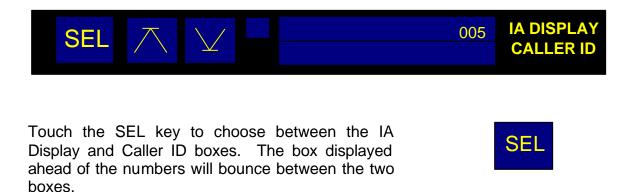
Select the KEYPAD key to display the G/G Pages.

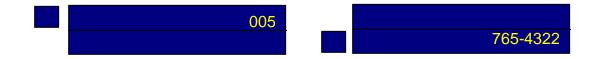
3.5.6 Canceling a Call or an Error



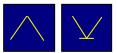


3.5.7 IA Display and Caller ID





Select the up arrow scroll key to view previously entered numbers and the down arrow scroll key to view the most recent numbers.



The bar displayed above or below the arrow denotes it at the beginning or end of the list.

CHAPTER 4

CHECKOUT PROCEDURES

4.1.1 POSITION CONFIDENCE TEST

When the ETVS is returned to operation following a power loss, or whenever deemed necessary, perform a position confidence test.

NOTE: THE FOLLOWING PROCEDURE CAUSES THE POSITION TO GO OFF-LINE.

DO NOT PROCEED WHILE POSITION IS OPERATIONAL.

4.1.1 Hardware Performance Test

- 1. Enter #0000 into the keypad to initiate diagnostics.
- 2. The IA display should report the following indications:

POS LPBK—PASS
SUBSYS LPBK—PASS
SYS LPBK—PASS
SECONDARY SUBSYS LPBK—PASS

- 3. Enter 1 into the keypad to initiate "LIGHT TEST". Cycle background colors.
- 4. Enter **2** into the keypad to initiate "TOUCH TEST". Lightly press your finger on the screen edge and drag about complete periphery of screen. The screen should turn red where touched.

NOTE: BE CAREFUL NOT TO TOUCH THE KEYPAD OR THE IA DISPLAY. IF THERE ARE NO BREAKS IN THE RED SQUARE, THEN THE TOUCH SCREEN IS FUNCTIONING NORMALLY.

4.1.2 POT Module Test

Enter into the following modes to test the POT module. The bar in the IA display will move with knob turning [bar decreases in length for counterclockwise knob turns and increases in length for clockwise turns].

- 1. Enter **31** to test the primary instructor sidetone "PR INST SID" POT.
- 2. Enter **32** to test the primary trainee sidetone "PR TRNE SID" POT.
- 3. Enter 41 to test the primary instructor headset "PR INST HS" POT.
- 4. Enter **42** to test the primary trainee headset "PR TRNE HS" POT.

4.1.3 Air-to-Ground Speaker Test

Enter **51** to test the A/G speaker. Produce a steady tone through the speaker and allow the volume to be adjusted by the speaker knob.

4.1.4 Ground-to-Ground Speaker Test

Enter **52** to test the G/G speaker. Produce a steady tone through the speaker and allow the volume to be adjusted by the speaker knob.

4.1.5 Clean Screen

To clean the TED Screen, enter #888 on the keypad.

4.1.6 Exit Test

Enter * to exit diagnostics.

CHAPTER 5

GLOSSARY

5.1 GLOSSARY OF ABBREVIATIONS

A/G Air-to-Ground

BRF Brief (A/G) (Key type)

CA Common Answer (Key type)

DA Direct Access (Key type)

G/G Ground-to-Ground

HS Headset

IA Indirect Access

INSTR Instructor

LS Loudspeaker

MON Monitor

M/S Main/Standby

OVR Override

POT Potentiometer

PRE CON Preset Conferencer

PTT Push-to-Talk

RCON ENB Reconfigure Enable

REL Release

SCT Supervisor Configuration Terminal

SEL Select

TED Touch Entry Display

TRNEE Trainee

TX Transmit

5.2 GLOSSARY OF TECHNICAL TERMS

Key

A pushbutton at a position. Keys are programmable at the SCT.

- Locking key functions as a toggle switch. It is pressed once to initiate an
 action and then a second time to terminate action. Most keys are locking
 keys.
- Non-locking keys require a continuous press in order to operate; depress and hold to initiate and continue action and then released when action is to be terminated. Examples of non-locking keys are emergency frequencies (121.5 and 243.0), the ERAD PTT key, Door Release keys, and the RING key.

Lockout

Squelch break signal that prevents other controllers from keying a transmitter at the same time unless that operator has preempting privilege.

Main/Standby

Primary (main) frequencies that have an associated standby frequency. TED Main/Standby function replaces the FSA-47 remote switching panel.

Map

A map defines the keys at a position. A map can be shared by many positions at the same time.

- Global Map: A global map contains a list of position maps, one for each position. If a position is not assigned a map in the global map, it will continue using its existing data when the global map is activated.
- Local Map: A local map is a layout of the keys, their assignments, and their system address for a particular position.

Position

A position is the name for the ETVS position equipment used by the operator. It consists of a TED, speaker, POT Module and jackbox.

Push-To-Talk (PTT)

Sends a key signal to radio transmitter during radio operation.

Reconfiguration

The addition or deletion of maps at a single position (local) or all positions (global).

Supervisor Configuration Terminal (SCT)

A complete desktop computer with video display and keyboard and operates on a standard disk-base operating system.

Touch Entry Display (TED)

A TED position is an operating position mounted on a color liquid crystal display panel that is touch-sensitive. The Radar Room is equipped with low ambient light TEDs and the Control Tower is equipped with high ambient light TEDs. TED positions provide the interface with the central rack and enable the operator to initiate and respond to all radio, landline, and intercom communications for a specific position.